DOCUMENT RESUME

ED 134 977 CS 003 253

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TITLE The Reading and Writing Abilities of Swedish Pupils: A Survey of the Development from Grade 1 to Grade 12.
PUB DATE 75
NOTE 13p.; Paper presented at the Annual Meeting of the United Kingdom Reading Association (12th, Manchester, England, July 28-August 1, 1975) ; Best copy available

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Academic Ability; *Composition Skills (Literary); Dropouts; Elementary Secondary Education; *Reading Achievement; Reading Development; *Reading Research; Social Class; Socioeconomic Status
IDENTIFIERS *Sweden

ABSTRACT

A study of the reading and writing abilities of students aged 7 to 19, in Linkoping, Sweden, was conducted from 1971 to 1975 and contained two parts: a survey of the development of certain reading and writing skills and an attempt to establish the extent to which pupils leaving school had reached satisfactory levels of reading and writing skills. This paper briefly summarizes and comments on the most important results of that study. Discussion follows the general development of reading and writing abilities, growth rates of different ability levels, performance differences between classes of the same grade, the relationship between performance and socioeconomic status, functional reading ability among school leavers, teachers' estimates of minimum satisfactory performance levels for school leavers, and consequences for educational research and practice. (JM)

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ED134977

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THE READING AND WRITING ABILITIES OF SWEDISH PUPILS: A SURVEY OF THE DEVELOPMENT FROM GRADE 1 TO GRADE 12

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by

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Paper presented to the Twelfth Annual Study Conference of the United Kingdom Reading Association, 28th July - 1st August 1975, Owens Park, University of Manchester.

Published in

CASHDAN, A. (Ed.), The Content of Reading. Proceedings of the twelfth annual course and conference of the UKRA. London: Ward Lock Educational 1976 (ISBN 0 7062 3570 3) Pp. 202-211.

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CS 003 253

THE READING AND WRITING ABILITIES OF SWEDISH PUPILS: A SURVEY OF THE DEVELOPMENT FROM GRADE 1 TO GRADE 12

In a paper read at the 1973 UKRA Conference (Grundin 1975a) I presented the outline of a fairly large-scale Swedish study of the development of reading and writing abilities during the comprehensive and the upper secondary school years, i.e. from the age of 7 to the age of 19. This study was planned and carried out during the period 1971 - 1975 at the Linköping College of Education.

The project comprised two major parts:

-- a survey of the development of certain reading and writing skills in the comprehensive and upper secondary schools; and
-- an attempt to establish - by means of, among other things, an inquiry among head teachers of Swedish - to what extent pupils leaving school have reached satisfactory levels of reading and writing skills.

The survey of skills development was made by means of testing, on two occasions with one year's interval between the testings, about 2.600 pupils in Linköping. The same tests and instructions were used on both occasions, and each subtest was used at as many grade levels as was deemed feasible, in order to facilitate comparisons between grades as to the level of reading and writing skills reached. In grades 6 through 12 exactly the same test battery was given to all pupils.

The inquiry among head teachers of Swedish, concerning minimum satisfactory performance levels in pupils leaving school, was addressed to practically all such teachers in the country, i.e. about 950 teachers. More than 700 of those teachers completed and returned the questionnaire.

Further details about the details of the study and information about the various subtests used can be found in the previous paper referred to above (Grundin 1975a).

In the present paper I will briefly summarise and comment upon the most important results of this study. The full report of the study has been published in Swedish with a summary in English (Grundin 1975c).

The general picture of the development of reading and writing abilities

The general trend in the development of reading and writing abilities is illustrated in figure 1, which summarises the results of five subtests. The slope of the line connecting two points of measurement indicates the growth rate during that particular year. Differences like the one between, say, the grade 4 mean 1972 (x) and the grade 4 mean 1973 (o) reflect sampling errors, in that they are means for different samples from two consecutive year groups. The figure shows the development for normal class and special class pupils in the comprehensive school (grades 1 - 9). In the upper secondary school the development is shown for three different types of study courses: the academic, including grades 10 - 12, the semi-academic and the vocational, including grades 10 - 11.

/ figure 1 to be inserted here /

Growth in the abilities studied is, on the whole, continuous from the school start to the end of the upper secondary school. The growth rate decreases, however, markedly with increasing pupil age. There are no clear indices of stagnation or recess - except among pupils in the vocational courses in the upper secondary school: these pupils seem to have reached their maximum ability level by the time they leave the comprehensive school. It is noteworthy that these pupils also were the only ones who did not take the subject Swedish during the year of investigation.

The growth rate among special class pupils is generally similar to that of normal class pupils in the corresponding grades. In some cases the differences between the 1972 and the 1973 samples of special class pupils are quite large, e.g. in grades 3, 4 and 8. This reflects not only sampling errors, but also the fact that the criteria for referring pupils to special classes may vary from grade to grade.

Growth rates at different ability levels - are the gaps widening?

As figure 1 indicates the growth rate among special class pupils is roughly the same as that among normal class pupils. This is an interesting, and rather unexpected finding. It is normally assumed that any mental growth rate is slower for individuals below average

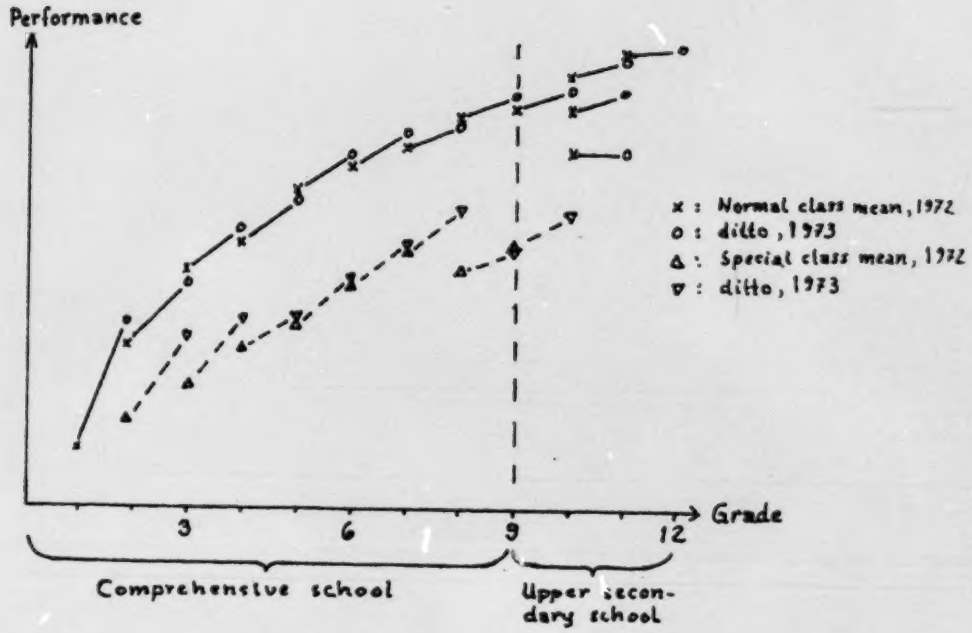

Figure 1 General development of reading and writing ability, grades 1 – 12.

and more rapid for those above average, i.e. differences between individuals increase with age (cf. e.g. Ljung 1965 and Olson 1959). If the gap between normal and special class pupils remains fairly constant for a number of years, this may indicate that the school has been at least partially successful in its attempt to provide compensatory education for children with learning disabilities or similar handicaps.

The growth rates at different ability levels have also been studied for each subtest. The results show that the gaps between ability groups remain fairly constant in some skills and increase moderately in other skills. The school seems to some extent successful in preventing the gaps from widening, but it does not manage to close those gaps - it cannot even make them more narrow. Most educators would, I believe, agree that the school must try to compensate for various handicaps and disabilities. (This probably goes even for those who want society to be different, so that handicaps are not produced to the present extent.) Yet few educators are likely to be of the opinion that it should be the objective of the school to close entirely the 'performance gaps' between groups of children at different ability levels.

Performance differences among classes in the same grade

It is a well known fact that the performance level in any school subject may vary considerably from classroom to classroom. It is rarely possible, though, to compare the differences among classes in the same grade to differences between grades. Such comparisons can be made - and have been made - in the present study. The results show a considerable overlapping between grades in terms of class means from grade 3 and upwards. This means that a weak class in grade 4 is below the top classes in grade 3. And in the higher grades the overlapping is even greater: a weak normal class in grade 9 can perform at a level which is equivalent to the overall mean for grade 6! And in vocational classes in grades 10 and 11 the class mean may be very close to grade 7 or even grade 6 means.

These differences among classes have, of course, important implications for the teaching of reading and writing. But the differences are also likely to influence greatly teachers' conceptions about what is the normal performance level in a particular grade. If a

teacher's experience is limited either to 'weak' classes or to classes with a high performance level, his judgment about what should be expected of the average pupil may be very much biased (cf. discussion below and in Grundin 1975b).

Performance and socio-economic status

The effect on academic performance of social or socio-economic handicaps has been demonstrated in numerous studies. The findings of this study support the view that there is a substantial correlation between socio-economic status of a pupil's family and the pupil's reading and writing performance. It has also been possible to study the size of the performance differences between various socio-economic groups in comparison to the differences between grade levels.

The average growth curves for SES group 3 (mainly working-class children) and SES group 1 (upper middle-class and upper class children) are particularly interesting to compare. Throughout the comprehensive school years those curves are approximately parallel, i. e. the gap between SES groups 1 and 3 is considerable already after one or two years in school, but after that it remains fairly constant. The size of the difference between SES groups 1 and 3 is very considerable: the mean difference is in general equivalent to the difference between the overall means for grade 6 and grade 9. In other words, the working-class children seem to lag three academic years behind the upper middle-class children in terms of reading performance. To what extent this is a genuine handicap in reading ability and to what extent it reflects the fact that middle-class values and norms largely dominate our school system cannot be determined on the basis of the test data available here.

On the whole, then, the comprehensive school seems to leave the gaps in terms of performance between different socio-economic groups unchanged. The differences existing after the first school year - and presumably already when the children start school - still exist when the pupils leave school eight years later. It is an objective of the modern comprehensive school to help to compensate for the socio-economically determined learning handicaps experienced by large groups of children. The Swedish comprehensive school is obviously far from fully successful in this respect. It is possible, though, that it is more successful than immediately

appears, since the gaps between the socio-economic groups can be expected to grow wider and wider, if no compensatory attempts are made. The fact that the gaps do not widen with increasing pupil age may, therefore, indicate that the school is partly successful in its efforts to compensate for socio-economic handicaps.

Functional reading ability among school leavers

There is in Sweden no commonly accepted definition of functional reading ability or functional literacy. These concepts have, in fact, only recently been used in Swedish discussions about reading. There seems to be no international agreement, either, as to what constitutes functional literacy. Expressed in grade level equivalents, functional literacy can mean, apparently, anything from reading ability at grade 4 level to ability at grade 9 level. In my opinion, reading ability at the level which is normally reached after six years in the Swedish comprehensive school constitutes a reasonable criterion of functional literacy in a society, which relies heavily, like most industrial or post-industrial societies, upon the printed word for communication of information. It should be noted that in Sweden pupils normally leave grade 6 at the age of 13.

To what extent do Swedish pupils fail to meet this criterion - or other criteria - of functional literacy? In table 1 data about three different criterion levels are included: the grade 3, grade 4 and grade 6 criteria. For each category of school leavers are indicated the percentages of pupils who have not reached the criterion levels before leaving school at the age of 16.

/ table 1 to be inserted here /

About 95 per cent of the pupils leaving grade 9 - including special class pupils - have reached or surpassed the grade 3 and grade 4 criteria. And some 85 per cent have reached - or surpassed - the grade 6 criterion. Consequently, some 15 per cent of those leaving the comprehensive school have not surpassed the grade 6 criterion of functional literacy. Thus, a substantial proportion of our young people leave school with reading and writing abilities that can be considered insufficient in view of the demands of the society in which they are going to live and work.

Table 1 Percentages of school leavers whose performance on certain tests is below different criteria of functional literacy.

Criterion	Test	Grade 9	Upper secondary school: Vocational	Semi-acad.	Academic
Grade 3 mean	RC	3.4	4.0	0.8	0.0
	SPL	3.6	11.9	0.0	0.0
	COPY	0.6	0.0	0.0	0.0
Grade 4 mean	RC	6.4	9.0	3.1	0.0
	SPL	7.8	16.6	1.4	0.2
	COPY	1.9	0.0	0.0	0.0
	RR	4.3	14.2	0.5	0.0
Grade 6	RC	16.3	27.7	8.8	1.4
	SPL	18.2	43.6	4.3	1.8
	COPY	12.0	34.3	2.9	0.5
	RR	20.6	42.8	15.5	3.7
	RC-MC	13.1	32.9	6.0	2.6
	PRW	14.0	18.9	1.6	1.6

Note: Abbreviations for tests are explained as follows:

RC : Reading comprehension, cloze type
RC-MC : Ditto with multiple-choice questions
SPL : Spelling
COPY : Handwriting (copying of prose text)
RR : Reading rate
PRW : 'Practical reading & writing skills'

Since I read this paper at the 1975 UKRA Conference, accounts of my research have been fairly widely publicised. Unfortunately, the term 'functional illiterate' has been used - for example in The Times Educational Supplement (Duckenfield 1975) - as a label for those who reach adulthood with reading and writing abilities not exceeding the grade 6 level. 'Functional illiterate' - a phrase coined in this context by a Swedish journalist - is a misnomer, as there can be nothing functional about lacking an ability. To use this phrase in the present context is also - and that is more serious - misleading, since it conveys the idea that a person reading only at grade 6 level is almost illiterate. And this is, of course, far from true, since the average 13-year-old has quite well developed reading and writing skills. The average difference in ability between a 13-year-old and a 16-year-old is also much smaller than the average difference between, say, a 10-year-old and a 13-year-old (cf. figure 1 above).

Teachers' estimates of minimum satisfactory performance levels for school leavers

A survey of the actual development of pupils' reading and writing abilities can tell us nothing about whether we should be satisfied or dissatisfied with the present situation. In order to shed some light upon this problem we carried out an inquiry where experienced teachers (i.e. head teachers of Swedish) were asked to indicate - for each test employed in our survey - what, in their opinion, is the minimum level of performance an average pupil leaving school should reach, before he is considered to have given proof of satisfactory ability. In other words, teachers were asked to indicate, for each test, what score they believe constitutes the minimum satisfactory performance level.

Not unexpectedly this proved a very difficult task. A number of teachers refused to make any judgment, as they considered the task impossible. Many teachers also found it difficult to make the necessary distinction between what they believe pupils can perform and what they think pupils ought to be able to perform. I have discussed these problems in a paper in the new UKRA periodical "Reading Education" (Grundin 1975b), to which the reader is referred for a more detailed exposition.

There are great variations between teachers' opinions regarding the estimates of minimum satisfactory performance levels for school leavers of each category (comprehensive school, upper secondary academic, semi-academic and vocational). This leads to considerable overlapping between categories of school leavers. Some upper secondary school teachers demand less of a grade 12 pupil in an academic course that other teachers demand of the average grade 9 pupil! And vice versa: some comprehensive school teachers demand more of the average grade 9 pupil than other teachers demand of the average grade 12 pupil! Such wide differences in teachers' judgment have, of course, far-reaching implications for any attempt to evaluate the results of the school's reading and writing instruction by means of inquiries among teachers.

In spite of the great variations between teachers' judgments, there is fairly good agreement between the average demands - or expectations - of teachers, on the one hand, and the average performance level of the pupils, on the other. This particularly true of pupils in grade 9. It must be emphasized, though, that this does not necessarily mean that most teachers are satisfied with the performance level of the average school leaver. A teacher may be dissatisfied and yet accept, reluctantly, the present situation - perhaps simply because he does not believe that any marked improvement is possible. In other words, it is impossible to tell to what extent our questionnaire replies reflect resignation rather than genuine satisfaction.

Consequences for educational research and practice

As regards the need for future research my findings point above all to the importance of studies of functional literacy: what can be expected or demanded; how can we teach - or help pupils to learn - the skills they need etc. The studies needed are not simply empirical studies of abilities and teaching or learning outcomes. We also need analyses of a more philosophical nature, where the value systems underlying various kinds of evaluation of reading abilities are studied, are made 'visible'; where the implications of various ways and means of avaluating reading ability are spelled out in great detail etc.

For educational practice the findings discussed here should have consequences primarily within the following areas:

-- The formulation of objectives for the reading and writing instruction: more specific and precise formulations are needed,

preferably with reference to a widely acceptable definition of functional literacy.

-- The organisational and instructional prerequisites for a continuous, systematic training of reading and writing abilities throughout the school years: those prerequisites must be carefully analysed, particularly with reference to the higher school stages.

-- The allocation of instructional resources to various subjects: it should be considered whether the total effect of schooling could be improved by devoting more resources to the training of basic communication skills.

-- The education and further education of teachers: all teachers, but above all the teachers of Swedish, should be better equipped to help their pupils to develop basic reading and writing skills.

The conclusions that can be drawn from this Swedish study of the development of reading and writing abilities through the ages 7 to 19 years are, in several respects, similar to thos of the British Bullock Committee (Department of Education and Science 1975). In particular, both my study and the studies and analyses of the Bullock Committee point to the need to redefine the teaching of reading so that it is made clear to all those concerned that there must be a continuous effort throughout the school years. My conclusions therefore fully endorse the third of the Bullock Committee's main recommendations:

"Every school should devise a systematic policy for the development of reading competence in pupils of all ages and ability levels." (op. cit., p 514).

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